



Meeting of the Directorate for Education and Human Resources (EHR)
Advisory Committee
Thursday, May 21, 2020
Location: Virtual

Advisory Committee Members Present: Hyman Bass, Catherine Casserly, Rory Cooper, Kaye Husbands Fealing, Okhee Lee, David Monk, James Spillane, Marilyn Strutchens (chair), Laurel Vermillion

Designated Federal Officer: Karen Marrongelle

1:00 PM – 1:15 PM WELCOMING REMARKS FROM THE EHR AC CHAIR & THE EHR ASSISTANT DIRECTOR

Marilyn Strutchens, Chair, EHR Advisory Committee, & Emily R. & Gerald S. Leischuck Endowed Professor, Mildred Cheshire Fraley Distinguished Professor, Department of Curriculum and Teaching, Auburn University

Karen Marrongelle, Assistant Director, EHR

Dr. Karen Marrongelle welcomed AC members to the abbreviated meeting and expressed gratitude for joining virtually. She continued by introducing and welcoming the new EHR AC Chair, Dr. Marilyn Strutchens.

Dr. Strutchens thanked Dr. Marrongelle for the introduction and welcomed AC members. She began the meeting with introductions of AC members, followed by an overview of the agenda. Meeting topics included NSF response to COVID-19, the Committee of Visitors (COV) for the Division on Learning in Formal and Informal Settings (DRL), and the EHR AC Subcommittee on STEM Education of the Future. Dr. Strutchens requested motions to approve the previous meeting's minutes. Minutes were approved. Dr. Strutchens ended her remarks by highlighting recent achievements of AC Members since the Fall 2019 AC Meeting.

1:15 PM – 1:40 PM SESSION 1: NSF RESPONSE to COVID-19

Moderator: Karen Marrongelle, Assistant Director, EHR

Dr. Marrongelle opened the session by acknowledging the ways in which the COVID-19 pandemic has impacted the federal landscape. Prior to sharing how NSF and EHR have continued to support STEM communities during this time, Dr. Marrongelle provided updates on changes that occurred at the Foundation and within the Directorate since the last AC meeting.

Updates included the departure of NSF's Director France Córdova and the nomination of a new Director by the President – Dr. Sethuraman “Panch” Panchanathan. Dr. Marrongelle noted that while NSF awaits his confirmation by the Senate, Dr. Kelvin Droegemeier, Director of OSTP, is serving as the Acting Director of NSF. Changes internal to EHR included welcoming a new Director for the Division of Human Resource Development, Dr. Diana Elder. Dr. Marrongelle added that the Directorate is also beginning a search for the position of Division Director for the Division of Undergraduate Education, and AC member Jim Spillane is leading that search. Finally, Dr. Marrongelle acknowledged Dr. Karen King, a DRL

Program Officer who passed away in December 2019. She expressed that Dr. King was highly regarded by her colleagues and friends in EHR and across the Foundation and was also well regarded nationally in the mathematical and education community. Her legacy will continue through the many works she pursued and through the passion she shared for equity and inclusion. Dr. Marrongelle led attendees in a moment of silence to acknowledge her passing.

Dr. Marrongelle continued by thanking EHR staff for their hard work during the pandemic and provided an overview of EHR and NSF efforts in continuing to support the STEM community. These efforts have included a new CAREER Dear Colleague Letter to support early-career investigators, funding of RAPID research proposals to address COVID-19, and a series of blog posts providing resources and information for at-home learning to parents, teachers, and students, written in collaboration with NSF's Office of Legislative and Public Affairs.

Dr. Karen Marrongelle opened the floor for **discussion, questions, and comments**.

Questions and discussion about the agency's COVID-19 response included: studying the impact of online or hybrid internships and research experiences on student learning outcomes; conducting research on the impact of the transition to distance learning on students with disabilities; highlighting examples of evidence-based solutions that are emerging as best-practices; and addressing unanimous concerns about equitable access to learning for students and families, both currently and moving forward.

1:40 PM – 2:05 PM SESSION 2: COMMITTEE OF VISITORS (COV)

Moderator: Corby Hovis, EHR COV Coordinator and Program Director
COV for the Division of Research on Learning in Formal and Informal Settings (DRL)

Introduction: Evan Heit, Division Director, DRL, EHR

Report: Okhee Lee, Professor, Steinhardt School of Culture, Education, and Human Development, New York University; **Darryl Williams**, Senior Vice President of Science and Education, The Franklin Institute; Co-Chairs of the COV

Dr. Hovis provided an overview of the purpose of the session – to report out on the Committee of Visitors for DRL, which took place on October 17-18, 2019. He noted that a COV typically reviews 4 years of activity and documentation within the Division, specifically in relation to the Merit Review Process. After review, the COV provides feedback on the execution of these activities. Dr. Hovis introduced Co-Chairs of the COV, Dr. Okhee Lee and Dr. Darryl Williams. The co-chairs noted that overall, the COV review was very positive. Members of the COV felt that the division is working well and making continuous improvements. Members held appreciation for Program Officers and recognized that they were doing difficult work and making good decisions. However, the COV noted two main points for improvement – creating transparency in the decision-making process (as related to the division's portfolio), and developing a division-wide logic model to facilitate understanding of each program's progress. The co-chairs summarized key recommendations for improvement from the COV, which included: examining language in the Merit Review Process and selection of reviewers; improving the effective use of project evaluation reports and developing a division-wide logic model; developing additional research capacity by clarifying criteria for innovative and transformative projects; and aligning more strongly to NSF's 10 Big Ideas.

Dr. Okhee Lee opened the floor for **discussion**.

Dr. Catherine Casserly echoed Dr. Lee's comment that there must be data that compares the number of proposals to awards and inquired about EHR's target for CAREER proposals. It was noted that EHR is currently not receiving as many proposals for CAREER in comparison to other directorates. Since the COV took place, DRL has run more analyses to continue investigating these questions. The next COV for EHR is scheduled for November 2020 for the Division of Human Resource Development. Kaye Husbands Fealing will be chairing this COV.

The COV Report for DRL was approved by the Advisory Committee.

2:05 PM – 2:45 PM SESSION 3: EHR AC SUBCOMMITTEE: STEM EDUCATION OF THE FUTURE

Moderator: Robin Wright, Division Director, Division of Undergraduate Education (DUE), EHR

Report: Margaret Honey, President and CEO, New York Hall of Science, and AC Subcommittee Chair

Dr. Robin Wright began the session by providing an overview of the STEM Education of the Future Subcommittee, which was formed in Fall 2017 and began its work in Spring 2018. Between 2018 and 2019, the subcommittee held eight meetings, working towards addressing three priority areas: access and opportunities to STEM careers for all learners at all stages of their educational pathways; an ethical workforce with future-proof skills; and appropriate technological skills.

Dr. Margaret Honey, subcommittee chair, presented a summary of the group's work in developing a vision for the future of STEM education. She reported three major takeaways that capture the vision for what the future of STEM education can and should encompass: 1) learning environments that are student-centered, project-based, and personalized; 2) equity and inclusion are the foundational principles; and 3) technology holds promise for creating equitable learning environments, but also alters the skills needed for the future, and changes educational content and how it is taught.

Dr. Wright opened the floor for **discussion**, prompting AC Members to think about what EHR must do now to support the vision for the future.

Members discussed treating the current crisis with COVID-19 as an opportunity to shape the format of educational resources and education in the future; suggested connecting components in the report to NSF's 10 Big Ideas; and encouraged NSF to think about the role of philanthropy to spur innovative models through institutional collaboration. Dr. Wright noted that one of the challenges in this work is to balance the tension between NSF's role as a catalyst for new ideas and its role in sustaining proven methodologies. Francisco Rodriguez, previous EHR AC Chair, expressed a hope for the recommendations and thoughtful discussion in this session to be used as a guiding light for EHR and NSF in the future.

The Advisory Committee accepted the STEM Education of the Future Report, pending edits.

2:40 PM – 3:00 PM CLOSING REMARKS

Karen Marrongelle, Assistant Director, EHR
Marilyn Strutchens, Chair, EHR Advisory Committee, & Emily R. & Gerald S. Leischuck Endowed Professor, Mildred Cheshire Fraley Distinguished Professor, Department of Curriculum and Teaching, Auburn University

Dr. Karen Marrongelle applauded the AC subcommittee on the STEM Education of the Future report for their work. She added that this work is especially important in light of the current crisis, as it underscores why NSF must have its eye on the distant future. EHR and NSF must consider how advanced technologies and Artificial Intelligence will be shaping education much sooner than originally anticipated. Dr. Marrongelle thanked all AC members and EHR staff in attendance.

Prior to adjourning, AC Members shared parting comments and recommendations in response to the meeting. Members emphasized the importance of treating the current crisis as an opportunity to address inequities and disparities in education, especially as there is a significant uptake and interest in science during this time. Dr. Okhee Lee shared thoughts regarding the role of data in STEM education and public understanding of data. She expressed a hope for the group to think about new ways to be proactive, rather than reactive. Dr. Hyman Bass added that collaboration and collective coherent action in science is most effective. Dr. Laurel Vermillion spoke to the challenges that tribal nations are currently facing, and how Tribal colleges and universities are working to support their communities during this time. Dr. Marylin Strutchens thanked all members for their contributions to a productive discussion and adjourned the meeting.